

# THREADING ACTION

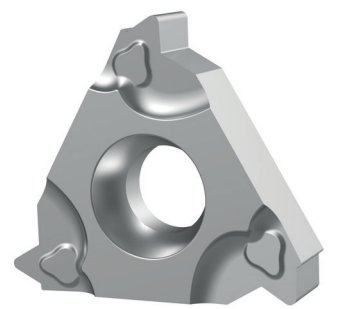
Acquista 30insertie ottieni l'utensile allo sconto speciale del 60%

Inserti: 16ER  
Utensili: NT-SER

Inserti: 16IR  
Utensili: NT-SIR

**nikko**TOOLS

**uemme**  
TOOLS and EQUIPMENT



## THREADING External threads

Inserts .B8

Holders .B12

Table "Number of passes" .B13

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP																														
	<h2>ISO 16-22</h2>					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>																													
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable																																			
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																																	
	<p>TP: thread pitch</p> <p>S D1 16E 3.65 4.00 22E 4.71 5.00</p>		<table border="1"> <tr> <td><b>P</b></td> <td>90 200</td> <td>70 180</td> <td></td> <td></td> </tr> <tr> <td><b>M</b></td> <td>60 150</td> <td>50 140</td> <td></td> <td></td> </tr> <tr> <td><b>K</b></td> <td>90 190</td> <td>60 180</td> <td></td> <td></td> </tr> <tr> <td><b>N</b></td> <td></td> <td></td> <td>400 1600</td> <td></td> </tr> <tr> <td><b>S</b></td> <td></td> <td></td> <td>50 100</td> <td></td> </tr> <tr> <td><b>H</b></td> <td></td> <td>60 140</td> <td></td> <td></td> </tr> </table>		<b>P</b>	90 200	70 180			<b>M</b>	60 150	50 140			<b>K</b>	90 190	60 180			<b>N</b>			400 1600		<b>S</b>			50 100		<b>H</b>		60 140						
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<b>H</b>		60 140																																				

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▼
<p>TPM pressed type chip control oriented</p>	<b>M P M K</b> 16ER100ISO-TPM	0.14	1	0.7	0.8	9.525	●	●		
	16ER125ISO-TPM	0.18	1.25	0.9	0.8	9.525	●	●		
	16ER150ISO-TPM	0.22	1.5	1	0.8	9.525	●	●		
	16ER175ISO-TPM	0.25	1.75	1.2	1.2	9.525	●	●		
	16ER200ISO-TPM	0.29	2	1.3	1.2	9.525	●	●		
	16ER250ISO-TPM	0.36	2.5	1.5	1.2	9.525	●	●		
	16ER300ISO-TPM	0.43	3	1.5	1.2	9.525	●	●		
<p>precision ground sharpness oriented</p>	<b>M P M K</b> 16ER050ISO	0.07	0.5	0.6	0.6	9.525		●		
	16ER070ISO	0.1	0.7	0.6	0.6	9.525		●		
	16ER075ISO	0.11	0.75	0.6	0.6	9.525		●		
	16ER080ISO	0.12	0.8	0.6	0.6	9.525		●		
	16ER100ISO	0.15	1	0.7	0.7	9.525		●		
	16ER125ISO	0.18	1.25	0.9	0.8	9.525		●		
	16ER150ISO	0.22	1.5	1	0.8	9.525		●		
	16ER175ISO	0.25	1.75	1.2	0.9	9.525		●		
	16ER200ISO	0.29	2	1.3	1	9.525		●		
	16ER250ISO	0.36	2.5	1.5	1	9.525		●		
	16ER300ISO	0.43	3	1.6	1.2	9.525		●		

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion

**FULL PROFILE**

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**PRESSED VS GROUND**

**TPM pressed**

- Improves the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Achieves the higher precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP		
	ISO 16-22				<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>		
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable							
	<b>Dimensions</b>	<b>ISO</b>							<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>	
	<p>S D1 16E 3.65 4.00 22E 4.71 5.00</p>	<b>P</b>	90 200	70 180						
	<b>M</b>	60 150	50 140							
	<b>K</b>	90 190	60 180							
	<b>N</b>						400 1600			
	<b>S</b>						50 100			
	<b>H</b>					60 140				

	Designation	RE	TP	PDX	PDY	IC	Stock			
<b>FULL PROFILE</b> 	<b>M N</b> 16ER100ISO-1C	0.15	1	0.7		9.525				●
	16ER125ISO-1C	0.16	1.25	0.9		9.525				●
	16ER150ISO-1C	0.22	1.5	1		9.525				●
	16ER175ISO-1C	0.26	1.75	1.2		9.525				●
	16ER200ISO-1C	0.29	2	1.3		9.525				●
	16ER250ISO-1C	0.37	2.5	1.5		9.525				●
	16ER300ISO-1C	0.43	3	1.5		9.525				●
<b>FULL PROFILE</b> 	<b>M H</b> 16ER100ISO-1S	0.15	1	0.7		9.525				●
	16ER125ISO-1S	0.16	1.25	0.9		9.525				●
	16ER150ISO-1S	0.22	1.5	1		9.525				●
	16ER175ISO-1S	0.26	1.75	1.2		9.525				●
	16ER200ISO-1S	0.29	2	1.3		9.525				●
	16ER250ISO-1S	0.37	2.5	1.5		9.525				●
	16ER300ISO-1S	0.43	3	1.5		9.525				●
<b>FULL PROFILE</b> 	<b>W P M K</b> 16ER11W-TPM	0.3	11	1.5	1.2	9.525	●	●		
	16ER14W-TPM	0.24	14	1.5	1.2	9.525	●	●		
	16ER19W-TPM	0.17	19	1	0.8	9.525		●		

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**ADVANCED THREADING**

**PCBN for ISO H**

Please increase the number of passes when machining hardened steel with PCBN inserts. Keep the maximum infeed value lower than 0.10 mm

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

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F - ACCESSORIES

G - SPARE PARTS

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<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP				
	<h2>ISO 16-22</h2>				<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>				
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable									
	<b>Dimensions</b>				<b>ISO</b>				<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
	<p>TP: thread pitch</p> <p>S D1 16E 3.65 4.00 22E 4.71 5.00</p>				<b>P</b>	90 200	70 180					
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				<b>K</b>	90 190	60 180						
				<b>N</b>					400 1600			
				<b>S</b>					50 100			
				<b>H</b>			60					

	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
<b>FULL PROFILE</b> <p>TPM pressed type chip control oriented</p>	<b>UN P M K</b> 16ER08UN-TPM	0.46	8	1.7	1.3	9.525	●			
	16ER12UN-TPM	0.31	12	1.5	1.2	9.525	●			
	16ER14UN-TPM	0.26	14	1.5	1.2	9.525	●			
	16ER16UN-TPM	0.23	16	1.1	0.9	9.525	●			
	16ER18UN-TPM	0.2	18	1	0.8	9.525	●			
	16ER20UN-TPM	0.18	20	0.9	0.8	9.525	●			
	16ER24UN-TPM	0.15	24	0.8	0.8	9.525	●			
	<b>FULL PROFILE</b> <p>TPM pressed type chip control oriented</p>	<b>NPT P M K</b> 16ER11.5NPT-TPM	0.25	11.5	1.5	1.2	9.525	●		
16ER14NPT-TPM		0.22	14	1.5	1.2	9.525	●			
16ER18NPT-TPM		0.2	18	1	0.8	9.525	●			
<b>FULL PROFILE</b> <p>precision ground sharpness oriented</p>	<b>NPT P M K</b> 16ER11.5NPT	0.07	11.5	1.5	1.1	9.525	●			
	16ER14NPT	0.06	14	1	0.8	9.525	●			
<b>FULL PROFILE</b> <p>TPM pressed type chip control oriented</p>	<b>BSPT P M K</b> 16ER11BSPT-TPM	0.3	11	1.5	1.2	9.525	●			
	16ER14BSPT-TPM	0.24	14	1.5	1.2	9.525	●			
	16ER19BSPT-TPM	0.17	19	1	0.8	9.525	●			
	16ER28BSPT-TPM	0.11	28	0.8	0.7	9.525	●			

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	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	●	●					
	Unstable machining, heavy cut	▲ 1 <sup>st</sup> choice ▲ suitable	▲	▲					
<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
		<b>P</b>	90 200	70 180					
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		<b>K</b>	90 190	60 180					
		<b>N</b>					400 1600		
		<b>S</b>					50 100		
		<b>H</b>			60 140				

PARTIAL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
<b>60° P M K</b>  TPM pressed type chip control oriented	16ERA60-TPM	0.08	-	0.9	0.8	9.525	●			
	16ERAG60-TPM	0.08	-	1.5	1.1	9.525	●			
	16ERGG60-TPM	0.25	-	1.7	1.2	9.525	●			
<b>55° P M K</b>  TPM pressed type chip control oriented	16ERA55-TPM	0.08	-	0.9	0.8	9.525	●			
	16ERAG55-TPM	0.08	-	1.5	1.1	9.525	●			
	16ERGG55-TPM	0.21	-	1.7	1.2	9.525	●			

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**PARTIAL PROFILE**

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

**PARTIAL PROFILE 60° PITCH RANGES**

	M	UN
A60	0.50÷1.50	48÷16
AG60	0.50÷3.00	48÷8
G60	1.75÷3.00	14÷8
N60	3.50÷5.00	7÷5

**PARTIAL PROFILE 55° PITCH RANGES**

	BSW-BSF-BSP
A55	48÷16
AG55	48÷8
G55	14÷8
N55	7÷5

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

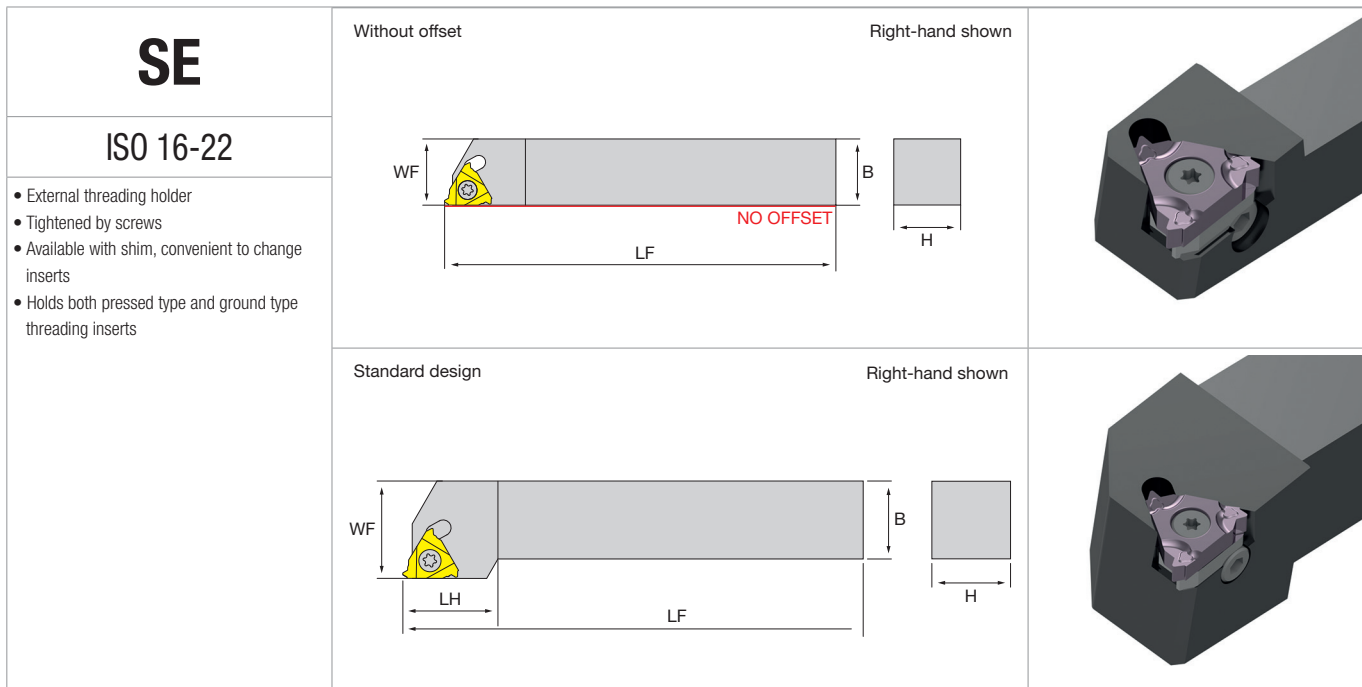
C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

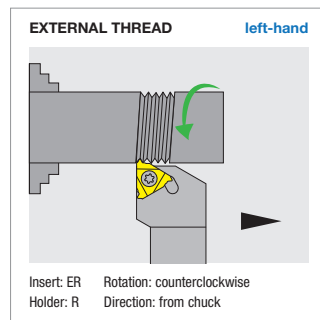
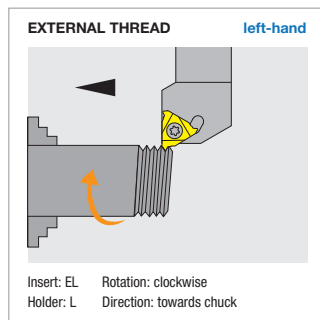
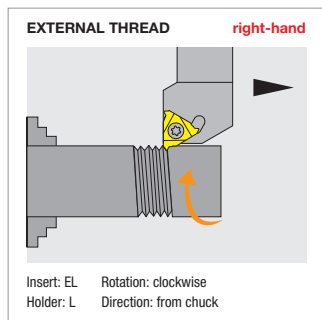
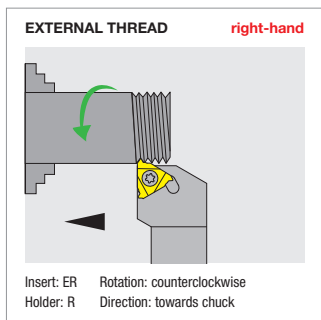
G - SPARE PARTS



Designation	Stock		H	B	WF	LF	LH				MIID
	L	R									
<b>WITHOUT OFFSET</b>											
NT-SER1212H16N	○	○	12	12	12	100	-				16EL/R <sub>000</sub>
NT-SER1616H16N	○	○	16	16	16	100	-				16EL/R <sub>000</sub>
<b>STANDARD DESIGN</b>											
NT-SER1616H16	●	●	16	16	20	100	22				16EL/R <sub>000</sub>
NT-SER2020K16	●	●	20	20	25	125	25				16EL/R <sub>000</sub>
NT-SER2525M16	●	●	25	25	32	150	25				16EL/R <sub>000</sub>
NT-SER2525M22		●	25	25	32	150	29				22ER <sub>000</sub>
NT-SER3232M22		●	32	32	40	170	32				22ER <sub>000</sub>

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Spare parts	Shim	Shim	Locking screws	L wrench	Insert screws	Flag wrenches
NT-SER <sub>00000</sub> 16 <sub>0</sub>	-	NT-SH060	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SER <sub>00000</sub> 22 <sub>0</sub>	-	NT-SH066	NT-SC004	NT-WR030	NT-ST40140T15	NT-FT15



**M - External ISO-metric threads**

TP	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.75	1.50	1.25	1.00	0.80	0.75	0.70	0.50	
NO. OF INFEEDS	RADIAL INFEED PER PASS																	
1	0.46	0.43	0.41	0.37	0.34	0.34	0.28	0.27	0.24	0.22	0.22	0.21	0.18	0.17	0.16	0.14	0.11	
2	0.43	0.40	0.39	0.34	0.32	0.31	0.26	0.24	0.22	0.20	0.20	0.17	0.16	0.15	0.14	0.12	0.09	
3	0.35	0.32	0.32	0.28	0.25	0.25	0.21	0.20	0.18	0.17	0.17	0.14	0.12	0.12	0.11	0.10	0.07	
4	0.30	0.28	0.27	0.24	0.22	0.21	0.18	0.17	0.16	0.14	0.14	0.11	0.11	0.08	0.07	0.07	0.06	
5	0.29	0.26	0.24	0.22	0.20	0.18	0.16	0.15	0.14	0.12	0.12	0.10	0.08	-	-	-	-	
6	0.26	0.24	0.24	0.22	0.18	0.18	0.15	0.15	0.12	0.10	0.08	0.08	-	-	-	-	-	
7	0.24	0.21	0.22	0.20	0.17	0.16	0.14	0.12	0.11	0.10	-	-	-	-	-	-	-	
8	0.23	0.20	0.20	0.18	0.15	0.15	0.13	0.11	0.08	0.08	-	-	-	-	-	-	-	
9	0.22	0.19	0.19	0.17	0.14	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	
10	0.19	0.18	0.18	0.16	0.13	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-	
11	0.18	0.17	0.16	0.14	0.12	0.11	0.10	-	-	-	-	-	-	-	-	-	-	
12	0.16	0.15	0.15	0.13	0.12	0.08	0.08	-	-	-	-	-	-	-	-	-	-	
13	0.15	0.14	0.12	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.13	0.13	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.13	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEED</b>	3.82	3.52	3.19	2.87	2.53	2.23	1.92	1.60	1.25	1.13	0.93	0.81	0.65	0.52	0.48	0.43	0.33	

green background are standard items all other sizes can make specials

**W - External Whitworth threads**

TP	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	26	28	
NO. OF INFEEDS	RADIAL INFEED PER PASS																	
1	0.49	0.46	0.45	0.38	0.37	0.32	0.30	0.29	0.28	0.28	0.24	0.24	0.23	0.22	0.21	0.19	0.18	
2	0.46	0.43	0.43	0.36	0.35	0.30	0.28	0.27	0.26	0.26	0.22	0.22	0.22	0.22	0.21	0.18	0.17	
3	0.38	0.38	0.38	0.30	0.29	0.24	0.23	0.22	0.22	0.22	0.18	0.19	0.19	0.18	0.17	0.15	0.14	
4	0.36	0.33	0.32	0.26	0.25	0.21	0.20	0.19	0.19	0.18	0.15	0.16	0.16	0.14	0.14	0.12	0.12	
5	0.34	0.29	0.28	0.22	0.22	0.19	0.18	0.17	0.16	0.16	0.13	0.13	0.13	0.12	0.11	0.08	0.08	
6	0.31	0.25	0.25	0.21	0.19	0.17	0.15	0.15	0.14	0.14	0.11	0.11	0.08	0.08	0.08	-	-	
7	0.29	0.24	0.22	0.19	0.18	0.15	0.14	0.14	0.13	0.13	0.09	0.08	-	-	-	-	-	
8	0.27	0.22	0.20	0.17	0.16	0.14	0.13	0.13	0.12	0.08	0.08	-	-	-	-	-	-	
9	0.24	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.08	-	-	-	-	-	-	-	-	
10	0.22	0.18	0.18	0.15	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	
11	0.20	0.17	0.17	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	-	
12	0.19	0.16	0.15	0.14	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	
13	0.17	0.15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEED</b>	4.29	3.82	3.44	2.90	2.50	2.17	1.93	1.76	1.58	1.45	1.20	1.13	1.01	0.96	0.92	0.72	0.69	

green background are standard items all other sizes can make specials

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS



**UN - External UN threads**

TP	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32
<b>NO. OF INFEEDS</b>	<b>RADIAL INFEED PER PASS</b>																	
1	0.47	0.45	0.43	0.36	0.35	0.30	0.28	0.27	0.27	0.27	0.25	0.23	0.22	0.23	0.20	0.19	0.17	0.17
2	0.44	0.41	0.40	0.34	0.33	0.28	0.26	0.26	0.25	0.26	0.24	0.22	0.21	0.21	0.19	0.17	0.15	0.15
3	0.40	0.39	0.36	0.27	0.26	0.25	0.21	0.20	0.20	0.20	0.18	0.17	0.16	0.16	0.15	0.14	0.11	0.13
4	0.36	0.31	0.31	0.23	0.22	0.21	0.20	0.17	0.19	0.18	0.17	0.15	0.14	0.14	0.12	0.12	0.09	0.08
5	0.32	0.26	0.26	0.22	0.21	0.18	0.17	0.16	0.16	0.15	0.14	0.13	0.13	0.12	0.10	0.08	0.08	-
6	0.27	0.23	0.23	0.20	0.19	0.16	0.15	0.15	0.14	0.13	0.12	0.11	0.11	0.08	0.08	-	-	-
7	0.25	0.21	0.20	0.18	0.17	0.14	0.14	0.14	0.12	0.12	0.11	0.10	0.08	-	-	-	-	-
8	0.23	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.11	0.08	0.08	0.08	-	-	-	-	-	-
9	0.22	0.18	0.19	0.15	0.14	0.12	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-
10	0.21	0.17	0.18	0.14	0.12	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-	-
11	0.19	0.16	0.17	0.13	0.11	0.11	0.08	-	-	-	-	-	-	-	-	-	-	-
12	0.18	0.15	0.15	0.12	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	-
13	0.16	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL INFEED</b>	4.07	3.62	3.29	2.71	2.33	2.08	1.84	1.66	1.52	1.39	1.29	1.19	1.05	0.94	0.84	0.70	0.60	0.53

green background are standard items all other sizes can make specials

**NPT - External NPT threads**

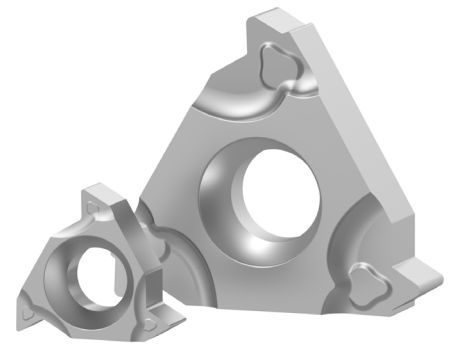
TP	8	11.5	14	18	27
<b>NO. OF INFEEDS</b>	<b>RADIAL INFEED PER PASS</b>				
1	0.28	0.25	0.24	0.22	0.19
2	0.25	0.22	0.22	0.18	0.15
3	0.22	0.18	0.17	0.15	0.13
4	0.19	0.16	0.15	0.14	0.11
5	0.18	0.16	0.14	0.13	0.09
6	0.18	0.14	0.13	0.12	0.08
7	0.17	0.14	0.12	0.10	-
8	0.17	0.12	0.10	0.08	-
9	0.16	0.12	0.10	-	-
10	0.16	0.10	0.08	-	-
11	0.14	0.09	-	-	-
12	0.13	0.08	-	-	-
13	0.12	-	-	-	-
14	0.11	-	-	-	-
15	0.08	-	-	-	-
<b>TOTAL INFEED</b>	2.54	1.76	1.45	1.12	0.75

green background are standard items all other sizes can make specials

**BSPT - British tapered pipe threads**

TP	11	14	19	28
<b>NO. OF INFEEDS</b>	<b>RADIAL INFEED PER PASS</b>			
1	0.25	0.24	0.22	0.17
2	0.23	0.20	0.19	0.14
3	0.21	0.17	0.15	0.11
4	0.18	0.14	0.12	0.10
5	0.16	0.12	0.12	0.06
6	0.14	0.12	0.06	-
7	0.13	0.11	-	-
8	0.12	0.06	-	-
9	0.06	-	-	-
<b>TOTAL INFEED</b>	1.58	1.20	0.86	0.58

green background are standard items all other sizes can make specials



## THREADING Internal threads

Inserts Micro .B14

Holders Micro .B15

Inserts ISO 11 - 16 - 22 .B16

Holders ISO 11 - 16 - 22 .B21

Table "Number of passes" .B23

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1> <h2>ISO 11-16-22</h2>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition	HF PVD	HF PVD	BL PVD	DP																																																		
		<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>																																																		
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable	●	○	●	●																																																		
	<b>Dimensions</b>	<b>ISO</b>	<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																																																				
	<p>TP: thread pitch</p> <p>S D1</p> <p>PDX 3 edges</p> <p>11  3.18 3.20 16  3.65 4.00 22  4.71 5.00</p>	<table border="1"> <tr> <td><b>P</b></td> <td>90</td> <td>70</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>200</td> <td>180</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>M</b></td> <td>60</td> <td>50</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>150</td> <td>140</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>K</b></td> <td>90</td> <td>60</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>190</td> <td>180</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>N</b></td> <td></td> <td></td> <td></td> <td>400</td> <td>1600</td> </tr> <tr> <td><b>S</b></td> <td></td> <td></td> <td></td> <td>50</td> <td>100</td> </tr> <tr> <td><b>H</b></td> <td></td> <td></td> <td>60</td> <td></td> <td>140</td> </tr> </table>	<b>P</b>	90	70					200	180				<b>M</b>	60	50					150	140				<b>K</b>	90	60					190	180				<b>N</b>				400	1600	<b>S</b>				50	100	<b>H</b>			60	
<b>P</b>	90	70																																																					
	200	180																																																					
<b>M</b>	60	50																																																					
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<b>K</b>	90	60																																																					
	190	180																																																					
<b>N</b>				400	1600																																																		
<b>S</b>				50	100																																																		
<b>H</b>			60		140																																																		

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▼
<p>TPM pressed type chip control oriented</p>	16R100ISO-TPM	0.07	1	0.7	0.8	9.525	●	●		
	16R125ISO-TPM	0.09	1.25	0.9	0.8	9.525	●	●		
	16R150ISO-TPM	0.11	1.5	1	0.8	9.525	●	●		
	16R175ISO-TPM	0.13	1.75	1.2	1.2	9.525	●	●		
	16R200ISO-TPM	0.15	2	1.3	1.2	9.525	●	●		
	16R250ISO-TPM	0.18	2.5	1.5	1.2	9.525	●	●		
	16R300ISO-TPM	0.22	3	1.5	1.2	9.525	●	●		

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion

**FULL PROFILE**



- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**PRESSED VS GROUND**

**TPM pressed**

- Improves the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Achieves the higher precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

<h1>Internal</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF	HF	BL	DP			
					PVD	PVD	PVD				
ISO 11-16-22					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>			
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable				●	○	●	●			
	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable				●	●					
	Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable					▲					
<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
<p>TP: thread pitch</p> <p>S D1</p> <p>3 edges</p> <p>11  3.18 3.20 16  3.65 4.00 22  4.71 5.00</p>		<b>P</b>		90	70						
				200	180						
		<b>M</b>		60	50						
				150	140						
		<b>K</b>		90	60						
				190	180						
<b>N</b>						400	1600				
<b>S</b>						50	100				
<b>H</b>					60	140					
<b>Stock</b>											
FULL PROFILE  precision ground sharpness oriented	<b>Designation</b>		<b>RE</b>	<b>TP</b>	<b>PDX</b>	<b>PDY</b>	<b>IC</b>				
	16R100ISO		0.072	1	0.7	0.6	9.525	●			
	16R125ISO		0.09	1.25	0.9	0.8	9.525	●			
	16R150ISO		0.11	1.5	1	0.8	9.525	●			
	16R175ISO		0.13	1.75	1.2	0.9	9.525	●			
	16R200ISO		0.14	2	1.3	1	9.525	●			
	16R250ISO		0.18	2.5	1.5	1.1	9.525	●			
	16R300ISO		0.22	3	1.5	1.1	9.525	●			

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion

**FULL PROFILE**

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- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**PRESSED VS GROUND**

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A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1> <h2>ISO 11-16-22</h2>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP					
					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>					
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable	General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable	Unstable machining, heavy cut ⚡ 1 <sup>st</sup> choice ⚡ suitable										
	<b>Dimensions</b>		<b>ISO</b>							<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>			
		<b>TP: thread pitch</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>							
		<b>P</b> 90 70 200 180		<b>M</b> 60 50 150 140		<b>K</b> 90 60 190 180		<b>N</b> 400 1600		<b>S</b> 50 100		<b>H</b> 60 140	

Designation		RE	TP	PDX	PDY	IC	Stock						
<b>FULL PROFILE</b> <p>PCD carbide backed single edge</p>	<b>M N</b> 16IR100ISO-1C	0.08	1	0.7	0.8	9.525							●
	16IR125ISO-1C	0.09	1.25	0.9		9.525							●
	16IR150ISO-1C	0.11	1.5	1		9.525							●
	16IR175ISO-1C	0.13	1.75	1.2		9.525							●
	16IR200ISO-1C	0.15	2	1.3		9.525							●
	16IR250ISO-1C	0.18	2.5	1.5		9.525							●
	16IR300ISO-1C	0.22	3	1.5		9.525							●
<b>FULL PROFILE</b> <p>PCBN solid brazing single edge</p>	<b>M H</b> 16IR100ISO-1S	0.08	1	0.7	0.8	9.525							●
	16IR125ISO-1S	0.09	1.25	0.9		9.525							●
	16IR150ISO-1S	0.11	1.5	1		9.525							●
	16IR175ISO-1S	0.13	1.75	1.2		9.525							●
	16IR200ISO-1S	0.15	2	1.3		9.525							●
	16IR250ISO-1S	0.18	2.5	1.5		9.525							●
	16IR300ISO-1S	0.22	3	1.5		9.525							●
<b>FULL PROFILE</b> <p>TPM pressed type chip control oriented</p>	<b>W P M K</b> 16IR11W-TPM	0.3	11	1.5	1.2	9.525	●	●					
	16IR14W-TPM	0.24	14	1.5	1.2	9.525	●	●					
	16IR19W-TPM	0.17	19	1	0.8	9.525		●					
<b>FULL PROFILE</b> <p>TPM pressed type chip control oriented</p>	<b>UN P M K</b> 16IR08UN-TPM	0.23	8	1.7	1.3	9.525		●					
	16IR12UN-TPM	0.16	12	1.5	1.2	9.525		●					
	16IR14UN-TPM	0.13	14	1.5	1.2	9.525		●					
	16IR16UN-TPM	0.12	16	1.1	0.9	9.525		●					
	16IR18UN-TPM	0.1	18	1	0.8	9.525		●					
	16IR20UN-TPM	0.09	20	0.9	0.8	9.525		●					
	16IR24UN-TPM	0.08	24	0.8	0.8	9.525		●					

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

**FULL PROFILE**

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- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

**ADVANCED THREADING**

**PCBN for ISO H**

Please increase the number of passes when machining hardened steel with PCBN inserts. Keep the maximum infeed value lower than 0.10 mm

**PRESSED VS GROUND**

**TPM pressed**

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**Precision ground**

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- Every kind of thread's standard can be easily produced using the same blank

<h1>Internal</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP						
	<h2>ISO 11-16-22</h2>	Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable		General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable		Unstable machining, heavy cut ▲ 1 <sup>st</sup> choice ▼ suitable		JP5120 JP5125 NBL350C ND050						
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	<b>Dimensions</b>		<b>ISO</b>						<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>					
<p>TP: thread pitch 3 edges S D1 11 3.18 3.20 16 3.65 4.00 22 4.71 5.00</p>			<b>P</b> 90 70 200 180		<b>M</b> 60 50 150 140		<b>K</b> 90 60 190 180		<b>N</b> 400 1600		<b>S</b> 50 100		<b>H</b> 60 140	

Designation		RE	TP	PDX	PDY	IC	Stock							
FULL PROFILE	NPT <b>P M K</b>													
	16IR11.5NPT-TPM	0.25	11.5	1.5	1.2	9.525	●							
	16IR14NPT-TPM	0.22	14	1.5	1.2	9.525	●							
	16IR18NPT-TPM	0.2	18	1	0.8	9.525	●							
FULL PROFILE	NPT <b>P M K</b>													
	16IR11.5NPT	0.07	11.5	1.5	1.1	9.525	●							
	16IR14NPT	0.06	14	1	0.8	9.525	●							
FULL PROFILE	BSPT <b>P M K</b>													
	16IR11BSPT-TPM	0.3	11	1.5	1.2	9.525	●							
	16IR14BSPT-TPM	0.24	14	1.5	1.2	9.525	●							
	16IR19BSPT-TPM	0.17	19	1	0.8	9.525	●							
	16IR28BSPT-TPM	0.11	28	0.8	0.7	9.525	●							
PARTIAL PROFILE	60° <b>P M K</b>													
	16IRAG0-TPM	0.08	-	0.9	0.8	9.525	●							
	16IRAG60-TPM	0.08	-	1.5	1.1	9.525	●							
	16IRG60-TPM	0.13	-	1.7	1.2	9.525	●							

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion

### FULL PROFILE

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

### PRESSED VS GROUND

**TPM pressed**

- Improves the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

**Precision ground**

- Achieves the higher precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

### PARTIAL PROFILE

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

### PARTIAL PROFILE 60° PITCH RANGES

	M	UN
AG0	0.50±1.50	48±16
AG60	0.50÷3.00	48÷8
G60	1.75÷3.00	14÷8
N60	3.50÷5.00	7÷5

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1> <h2>ISO 11-16-22</h2>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP																																										
					<b>JP5120</b>	<b>JP5125</b>	<b>NBL350C</b>	<b>ND050</b>																																										
<ul style="list-style-type: none"> <li><b>M</b>: metric threads</li> <li><b>W</b>: parallel pipe threads (whitworth)</li> <li><b>UN</b>: unified inch threads</li> <li><b>NPT</b>: American national tapered pipe threads</li> <li><b>BSPT</b>: tapered pipe threads</li> <li>Partial profile with <b>55°</b> or <b>60°</b> angle, for metric, unified and parallel pipe threads</li> </ul>	Stable machining, light cut	● 1 <sup>st</sup> choice ○ suitable	● ● ● ●	○ ○ ○ ○																																														
	General machining, medium cut	● 1 <sup>st</sup> choice ○ suitable	● ● ● ●	○ ○ ○ ○																																														
	Unstable machining, heavy cut	● 1 <sup>st</sup> choice ○ suitable	● ● ● ●	○ ○ ○ ○																																														
	<b>Dimensions</b>		<b>ISO</b>		<b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b>																																													
<p>TP: thread pitch</p> <p>S D1</p> <p>11  3.18 3.20 16  3.65 4.00 22  4.71 5.00</p>		<table border="1"> <tr> <td><b>P</b></td> <td>90 200</td> <td>70 180</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>M</b></td> <td>60 150</td> <td>50 140</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>K</b></td> <td>90 190</td> <td>60 180</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>N</b></td> <td></td> <td></td> <td></td> <td>400 1600</td> <td></td> <td></td> </tr> <tr> <td><b>S</b></td> <td></td> <td></td> <td></td> <td>50 100</td> <td></td> <td></td> </tr> <tr> <td><b>H</b></td> <td></td> <td></td> <td>60 140</td> <td></td> <td></td> <td></td> </tr> </table>		<b>P</b>	90 200	70 180					<b>M</b>	60 150	50 140					<b>K</b>	90 190	60 180					<b>N</b>				400 1600			<b>S</b>				50 100			<b>H</b>			60 140								
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<b>N</b>				400 1600																																														
<b>S</b>				50 100																																														
<b>H</b>			60 140																																															

PARTIAL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock				
<p><b>TPM pressed type</b> chip control oriented</p>	55° <b>P M K</b>										
	16IRAG5-TPM	0.08	-	0.9	0.8	9.525	●				
	16IRAG55-TPM	0.08	-	1.5	1.1	9.525	●				
	16IRG55-TPM	0.21	-	1.7	1.2	9.525	●				

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

**PARTIAL PROFILE**

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

**PARTIAL PROFILE 55° PITCH RANGES**

	BSW-BSF-BSP
<b>A55</b>	48÷16
<b>AG55</b>	48÷8
<b>G55</b>	14÷8
<b>N55</b>	7÷5

# V SI

ISO 11-16-22

- Internal threading holder
- Vortex boring bar (High standard steel)
- Special chip evacuation path
- With coolant through

Reduced neck Right-hand shown

Standard design Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
<b>REDUCED NECK</b>											
NT-V16M-SIR11-12		●	12	16	6.3	150	25	18°			11IR <sub>000</sub>
NT-V16M-SIR11-15		●	15	16	7.5	150	25	18°			11IR <sub>000</sub>
<b>STANDARD DESIGN</b>											
NT-V10M-SIR11-10		●	10	10	5.2	150	25	21°			11IR <sub>000</sub>
NT-V16M-SIR16-20		●	20	16	10	150	35	15°			16IR <sub>000</sub>
NT-V20Q-SIR16-24		●	24	20	12	180	35	15°			16IR <sub>000</sub>
NT-V25R-SIR16-30		●	30	25	15	200	35	15°			16IR <sub>000</sub>
NT-V32S-SIR16-37		●	37	32	18.5	250	35	15°			16IR <sub>000</sub>

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Shim	Locking screws	L wrench	Insert screws	Flag wrenches
NT-V <sub>00</sub> M-SIR11-∞	-	-	-	NT-ST25059T08	NT-FT08
NT-V16M-SIR16-20	-	-	-	NT-ST35089T15	NT-FT15
NT-V20Q-SIR16-24	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15
NT-V25R-SIR16-30	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15
NT-V32S-SIR16-37	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15

**INTERNAL THREAD** right-hand

Insert: IR    Rotation: counterclockwise  
Holder: R    Direction: towards chuck

**INTERNAL THREAD** left-hand

Insert: IR    Rotation: counterclockwise  
Holder: R    Direction: from chuck



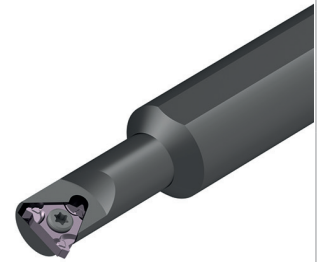
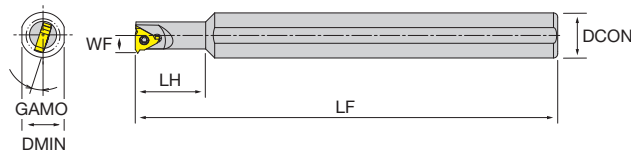
**SI**

ISO 11-16-22

- Internal threading holder
- Steel boring bar
- Without coolant through
- Small diameters with reduced neck

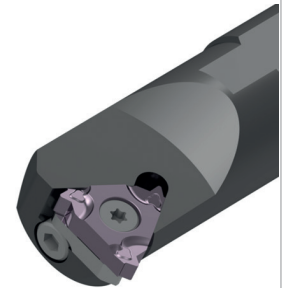
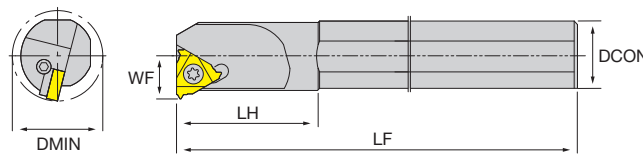
Reduced neck

Right-hand shown



Standard design

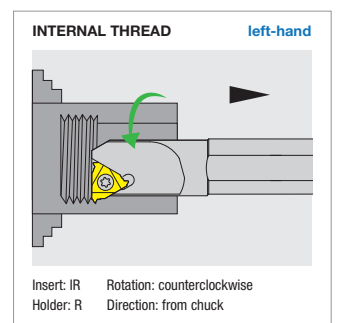
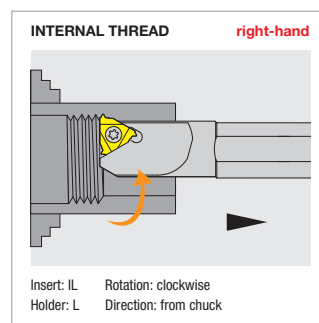
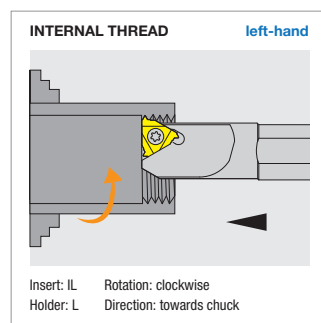
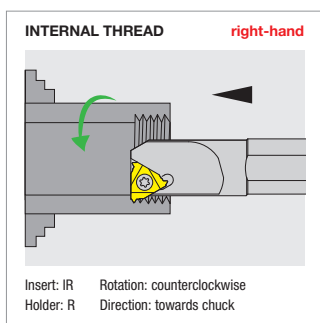
Right-hand shown



Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
<b>REDUCED NECK</b>											
NT-SIR1012-11		●	10	12	5.2	150	25	21°			11IR <sup>000</sup>
NT-SIR1216-11		●	12	16	6.3	150	25	18°			11IR <sup>000</sup>
NT-SIR1516-11		●	15	16	7.5	150	25	15°			11IR <sup>000</sup>
<b>STANDARD DESIGN</b>											
NT-SIR2016-16	●	●	20	16	10	150	35	15°			16IL/R <sup>000</sup>
NT-SIR2420S-16	●	●	24	20	12	180	35	15°			16IL/R <sup>000</sup>
NT-SIR3025S-16	●	●	30	25	15	200	35	15°			16IL/R <sup>000</sup>
NT-SIR3732S-16	●	●	37	32	18.5	250	35	15°			16IL/R <sup>000</sup>
NT-SIR3025S-22		●	30	25	16	200	35	15°			22IR <sup>000</sup>
NT-SIR3732S-22		●	37	32	19.5	250	35	15°			22IR <sup>000</sup>
NT-SIR4440S-22		●	44	40	24.5	300	35	15°			22IR <sup>000</sup>

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Shim	Shim	Locking screws	L wrench	Insert screws	Flag wrenches
NT-SIR <sup>0000</sup> -11	-	-	-	-	NT-ST25069T08	NT-FT08
NT-SIR <sup>0000</sup> -16	-	-	-	-	NT-ST35089T15	NT-FT15
	NT-SH060					
NT-SIR <sup>0000</sup> S-16	-	NT-SH065	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SIR <sup>0000</sup> S-22	-	NT-SH067	NT-SC004	NT-WR030	NT-ST40140T15	NT-FT15



M - Internal ISO-metric threads

TP	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.75	1.50	1.25	1.00	0.80	0.75	0.70	0.50	
NO. OF INFEEDES	RADIAL INFEEDE PER PASS																	
1	0.46	0.43	0.42	0.37	0.34	0.32	0.28	0.26	0.23	0.22	0.20	0.17	0.17	0.17	0.16	0.13	0.10	
2	0.43	0.40	0.40	0.34	0.31	0.30	0.26	0.25	0.21	0.20	0.18	0.17	0.15	0.14	0.13	0.12	0.08	
3	0.35	0.33	0.32	0.28	0.24	0.24	0.21	0.18	0.17	0.15	0.15	0.14	0.11	0.11	0.10	0.10	0.07	
4	0.30	0.26	0.26	0.23	0.21	0.19	0.16	0.15	0.15	0.13	0.13	0.10	0.09	0.07	0.07	0.07	0.06	
5	0.26	0.22	0.22	0.21	0.18	0.17	0.14	0.13	0.12	0.10	0.11	0.09	0.08	-	-	-	-	
6	0.22	0.20	0.20	0.19	0.15	0.15	0.13	0.12	0.11	0.09	0.08	0.08	-	-	-	-	-	
7	0.20	0.18	0.17	0.16	0.14	0.14	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	
8	0.19	0.17	0.16	0.15	0.13	0.13	0.11	0.10	0.08	0.08	-	-	-	-	-	-	-	
9	0.18	0.16	0.16	0.14	0.12	0.12	0.10	0.10	-	-	-	-	-	-	-	-	-	
10	0.16	0.15	0.15	0.13	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	-	-	
11	0.15	0.14	0.14	0.12	0.11	0.10	0.09	-	-	-	-	-	-	-	-	-	-	
12	0.15	0.14	0.14	0.12	0.10	0.08	0.08	-	-	-	-	-	-	-	-	-	-	
13	0.14	0.13	0.12	0.11	0.10	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.13	0.12	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEEDE</b>	3.54	3.25	2.96	2.65	2.33	2.05	1.78	1.48	1.17	1.05	0.85	0.75	0.60	0.49	0.46	0.42	0.31	

green background are standard items all other sizes can make specials

W - Internal Whitworth threads

TP	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	26	28	
NO. OF INFEEDES	RADIAL INFEEDE PER PASS																	
1	0.49	0.46	0.45	0.38	0.37	0.32	0.30	0.29	0.28	0.28	0.24	0.24	0.23	0.22	0.21	0.19	0.18	
2	0.46	0.43	0.43	0.36	0.35	0.30	0.28	0.27	0.26	0.26	0.22	0.22	0.22	0.22	0.21	0.18	0.17	
3	0.38	0.38	0.38	0.30	0.29	0.24	0.23	0.22	0.22	0.22	0.18	0.19	0.19	0.18	0.17	0.15	0.14	
4	0.36	0.33	0.32	0.26	0.25	0.21	0.20	0.19	0.19	0.18	0.15	0.16	0.16	0.14	0.14	0.12	0.12	
5	0.34	0.29	0.28	0.22	0.22	0.19	0.18	0.17	0.16	0.16	0.13	0.13	0.13	0.12	0.11	0.08	0.08	
6	0.31	0.25	0.25	0.21	0.19	0.17	0.15	0.15	0.14	0.14	0.11	0.11	0.08	0.08	0.08	-	-	
7	0.29	0.24	0.22	0.19	0.18	0.15	0.14	0.14	0.13	0.13	0.09	0.08	-	-	-	-	-	
8	0.27	0.22	0.20	0.17	0.16	0.14	0.13	0.13	0.12	0.08	0.08	-	-	-	-	-	-	
9	0.24	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.08	-	-	-	-	-	-	-	-	
10	0.22	0.18	0.18	0.15	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	
11	0.20	0.17	0.17	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	-	
12	0.19	0.16	0.15	0.14	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	
13	0.17	0.15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEEDE</b>	4.29	3.82	3.44	2.90	2.50	2.17	1.93	1.76	1.58	1.45	1.20	1.13	1.01	0.96	0.92	0.72	0.69	

green background are standard items all other sizes can make specials

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

**UN - Internal UN threads**

TP	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32	
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>																		
1	0.44	0.41	0.42	0.35	0.34	0.30	0.28	0.27	0.27	0.27	0.25	0.23	0.22	0.23	0.20	0.18	0.17	0.17	
2	0.41	0.38	0.38	0.33	0.32	0.28	0.26	0.25	0.23	0.23	0.20	0.18	0.18	0.17	0.16	0.15	0.14	0.14	
3	0.39	0.34	0.33	0.25	0.24	0.22	0.19	0.18	0.18	0.18	0.15	0.14	0.14	0.14	0.13	0.13	0.09	0.10	
4	0.33	0.28	0.27	0.21	0.21	0.18	0.16	0.15	0.15	0.15	0.13	0.13	0.12	0.12	0.10	0.10	0.08	0.08	
5	0.28	0.23	0.23	0.18	0.17	0.15	0.14	0.13	0.13	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.08	-	
6	0.24	0.20	0.20	0.16	0.15	0.13	0.13	0.12	0.11	0.11	0.11	0.10	0.09	0.08	0.08	-	-	-	
7	0.22	0.19	0.18	0.15	0.14	0.12	0.12	0.11	0.11	0.10	0.10	0.09	0.08	-	-	-	-	-	
8	0.21	0.18	0.17	0.14	0.13	0.11	0.11	0.10	0.10	0.08	0.08	0.08	-	-	-	-	-	-	
9	0.20	0.17	0.16	0.13	0.12	0.11	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-	
10	0.18	0.16	0.15	0.12	0.12	0.10	0.09	0.08	-	-	-	-	-	-	-	-	-	-	
11	0.17	0.15	0.14	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	
12	0.16	0.14	0.14	0.11	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	-	
13	0.15	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.14	0.13	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>TOTAL INFEEDE</b>	3.74	3.32	2.99	2.46	2.13	1.88	1.66	1.49	1.36	1.25	1.14	1.06	0.93	0.84	0.76	0.64	0.56	0.49	

green background are standard items all other sizes can make specials

**NPT - Internal NPT threads**

TP	8	11.5	14	18	27.0
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>				
1	0.28	0.28	0.28	0.28	0.28
2	0.25	0.25	0.25	0.25	0.25
3	0.22	0.22	0.22	0.22	0.22
4	0.19	0.19	0.19	0.19	0.19
5	0.18	0.18	0.18	0.18	0.18
6	0.18	0.18	0.18	0.18	0.18
7	0.17	0.17	0.17	0.17	0.17
8	0.17	0.17	0.17	0.17	0.17
9	0.16	0.16	0.16	0.16	0.16
10	0.16	0.16	0.16	0.16	0.16
11	0.14	0.14	0.14	0.14	0.14
12	0.13	0.13	0.13	0.13	0.13
13	0.12	0.12	0.12	0.12	0.12
14	0.11	0.11	0.11	0.11	0.11
15	0.08	0.08	0.08	0.08	0.08
<b>TOTAL INFEEDE</b>	2.54	1.76	1.45	1.12	0.75

green background are standard items all other sizes can make specials

**BSPT - British tapered pipe threads**

TP	11	14	19	28
<b>NO. OF INFEEDES</b>	<b>RADIAL INFEEDE PER PASS</b>			
1	0.25	0.24	0.22	0.17
2	0.23	0.20	0.19	0.14
3	0.21	0.17	0.15	0.11
4	0.18	0.14	0.12	0.10
5	0.16	0.12	0.12	0.06
6	0.14	0.12	0.06	-
7	0.13	0.11	-	-
8	0.12	0.06	-	-
9	0.06	-	-	-
<b>TOTAL INFEEDE</b>	1.58	1.20	0.86	0.58

green background are standard items all other sizes can make specials

A - TURNING  
B - THREADING  
C - GROOVING  
D - MILLING  
E - DRILLING  
F - ACCESSORIES  
G - SPARE PARTS

ISO 513	MATERIAL	HARDNESS HB	JP5120			JP5125			
			min	start	max	min	start	max	
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	● 100	150	200	○ 100	140	180	
			● 90	130	170	● 80	120	160	
			● 70	100	130	⚙ 60	80	100	
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	● 90	130	170	○ 80	120	160	
			● 80	110	140	● 70	100	120	
			● 60	80	100	⚙ 60	80	100	
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	● 80	110	150	○ 70	100	130	
			● 70	100	130	● 60	90	120	
			● 60	80	100	⚙ 60	80	100	
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	● 100	150	200	○ 100	140	180	
			● 90	130	170	● 80	120	160	
			● 70	100	130	⚙ 60	80	100	
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	● 70	90	110	○ 60	80	100	
			● 60	80	100	● 50	70	90	
			● 50	60	70	⚙ 50	60	70	
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	● 70	110	150	○ 60	100	140	
			● 60	100	140	● 50	90	130	
			● 50	80	110	⚙ 50	80	110	
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		● 70	100	130	○ 60	90	120	
			● 60	90	120	● 60	80	100	
			● 50	70	90	⚙ 50	70	90	
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	● 110	150	190	○ 100	140	180	
			● 90	135	160	● 80	115	150	
			● 60	90	120	⚙ 60	90	120	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	● 90	130	170	○ 80	120	160	
			● 80	105	130	● 70	95	120	
			● 60	80	100	⚙ 60	80	100	
K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	● 80	115	150	○ 70	105	140	
			● 70	100	130	● 60	90	120	
			● 50	75	100	⚙ 50	75	100	
ISO 513	MATERIAL	HARDNESS HB	ND050 (NDP001)						
			min	start	max				
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		● 400	1000	1600				
			● 250	400	550				
			● 300	600	900				
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		● 300	600	900				
			● 250	400	550				
			● 300	600	900				
N3	Copper alloy (ex. 2.0060/E-Cu57)		● 300	600	900				
			● 250	400	550				
			● 300	600	900				
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		● 50	75	100				
			● 250	400	550				
			● 300	600	900				

Complete workpiece materials p. H1.

- A - TURNING
- B - THREADING
- C - GROOVING
- D - MILLING
- E - DRILLING
- F - ACCESSORIES
- G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

ISO 513	MATERIAL	HARDNESS HB	NBL350C				
			min	start	max		
<b>H1</b>	Case-hardened steel (ex. 1.7131/16 MnCr 5)	50 ÷ 56	● 60	<b>100</b>	140		
	Bearing steel, quenched and tempered steel (ex. 1.3505/100 Cr 6)	54 ÷ 62	● 60	<b>90</b>	120		
	Hardened tool steel (ex. 1.2436/X 210 CrW 12/2312)	60 ÷ 65	● 50	<b>70</b>	90		

Complete workpiece materials p. H1.